NWRFC Water Supply Forecast Procedure for Dworshak Inflow

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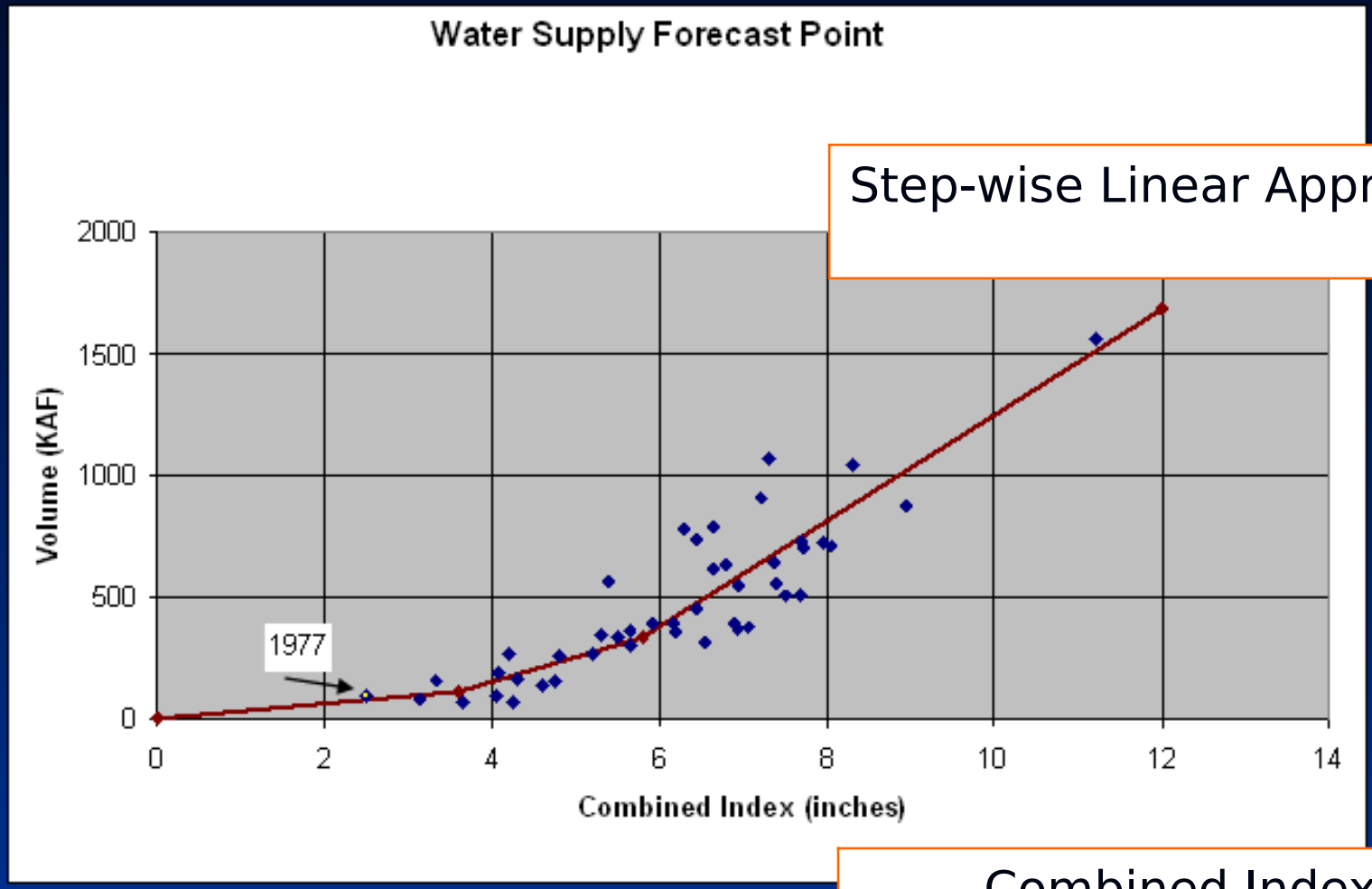
NWRFC Water Supply Forecast Process

- Regression Model
  - Stepwise linear
  - Combined Index vs Observed Flows
- Manual Adjustment
  - Forecasts QC inputs
  - Forecasters adjust output based on a variety of inputs
  - Inter-basin Cross Plots
- Forecast Coordination

Regression Model



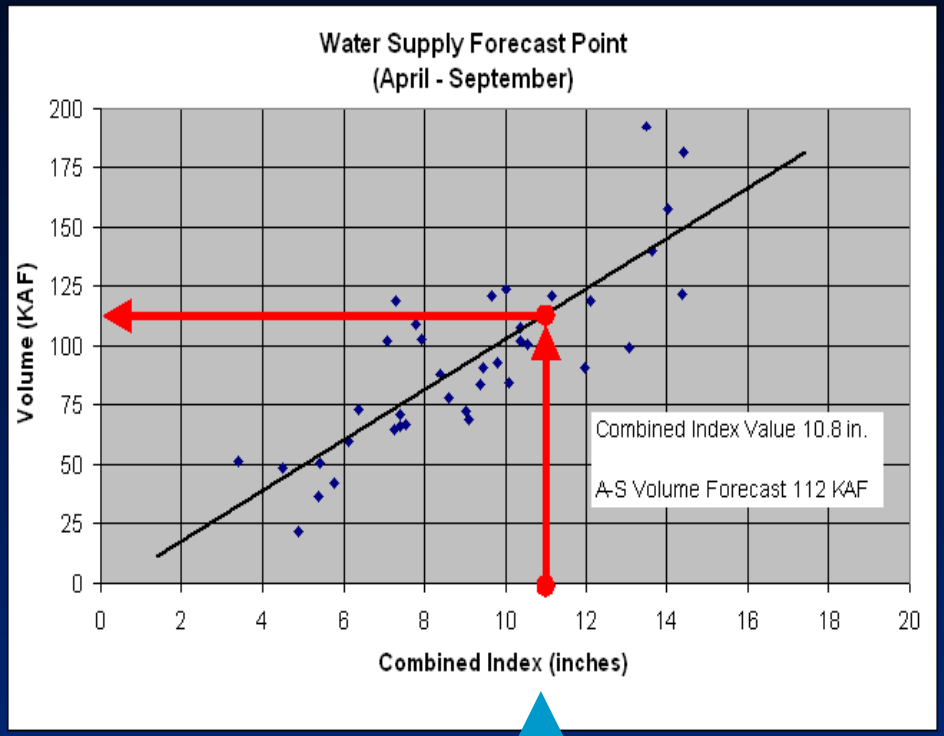
Step-wise Linear Approach

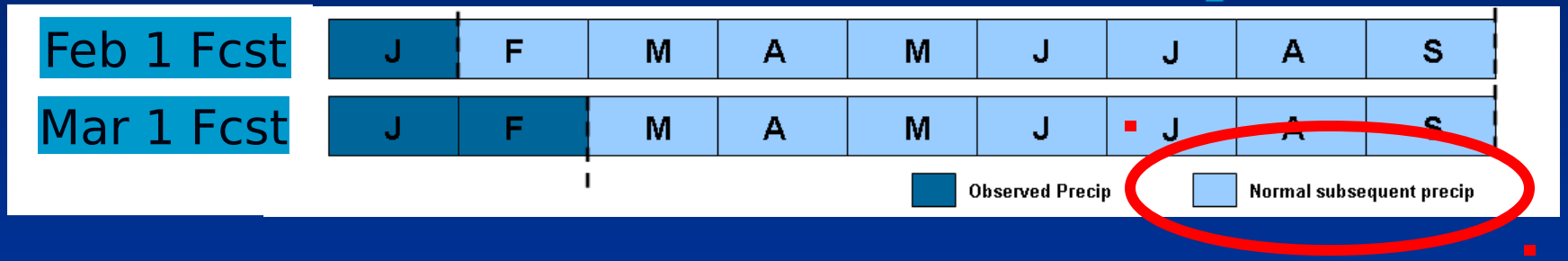
Combined Index incorporates:
Precip, Snow, & Runoff

Single Equation for Entire Forecast Period

One Single Equation Applied Through Forecast Season

Observed Precip, Snow, Runoff
Normal Subsequent Precip





Dworshak Forecast Components (Feb 1, 2007 states)

- Oct-Nov Fall Runoff
  - Natural Flow = 174%
- Feb 1 Snow Water Equivalent (70% Combined Winter Precip Term)
  - Pierce (.27 rel wt) = 77%
  - Shanghai Summit (.20 rel wt) = 86%
  - Lolo Pass (.19 rel wt) = 86%
  - Hoodoo Creek (.11 rel wt) = 83%
  - Lost Lake (.10 rel wt) = 82

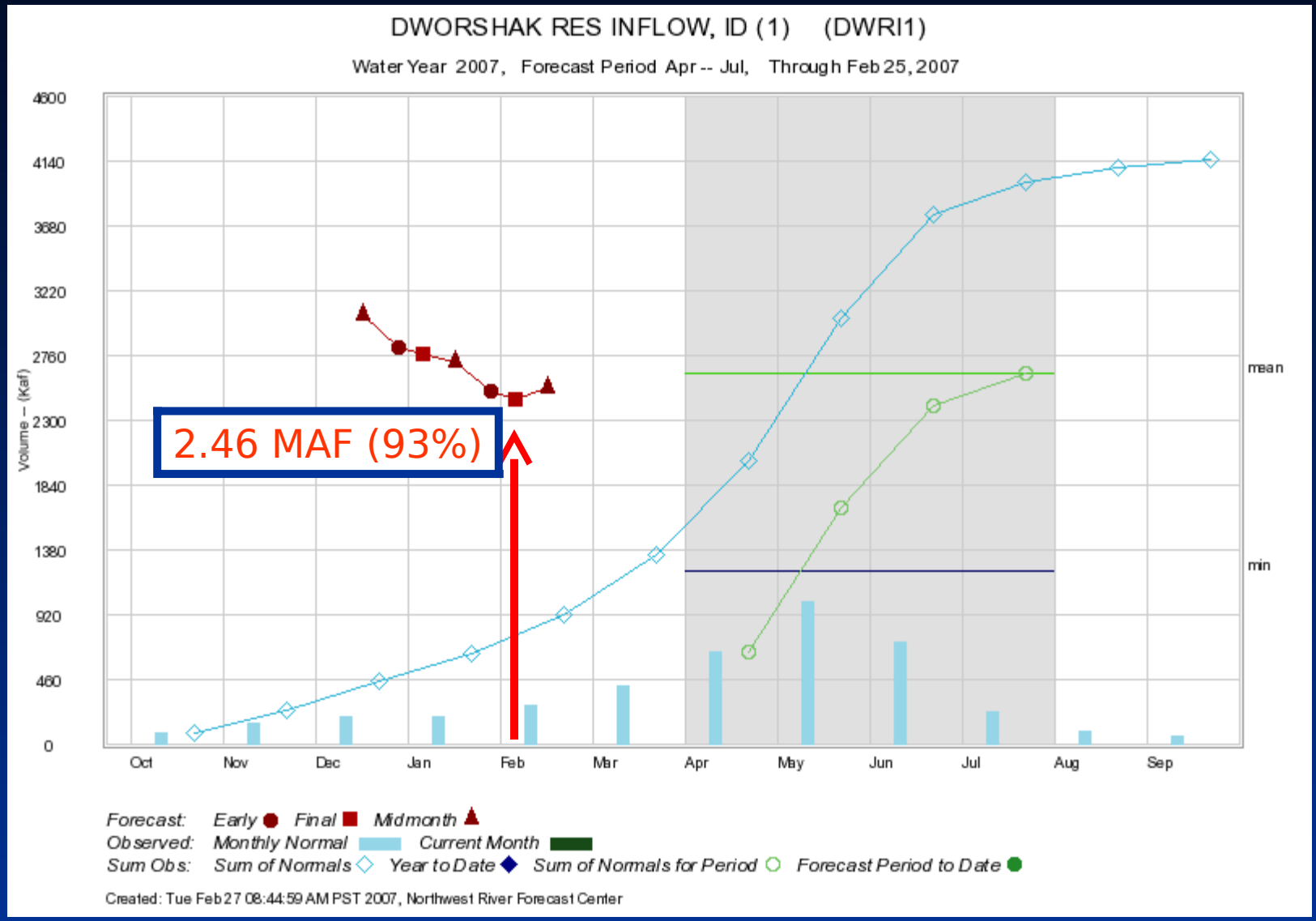
Weighted Mean = 82%

- Nov-Jan Precipitation (30% Combined Winter Precip Term)
  - Avery R.S. (.40 rel wt) = %
  - Orofino (.30 rel wt) = %
  - Pierce (.30 rel wt) = %
  - Kooskia R.S. (.25 rel wt) = %
  - Fenn R.S. (.20 rel wt) = %

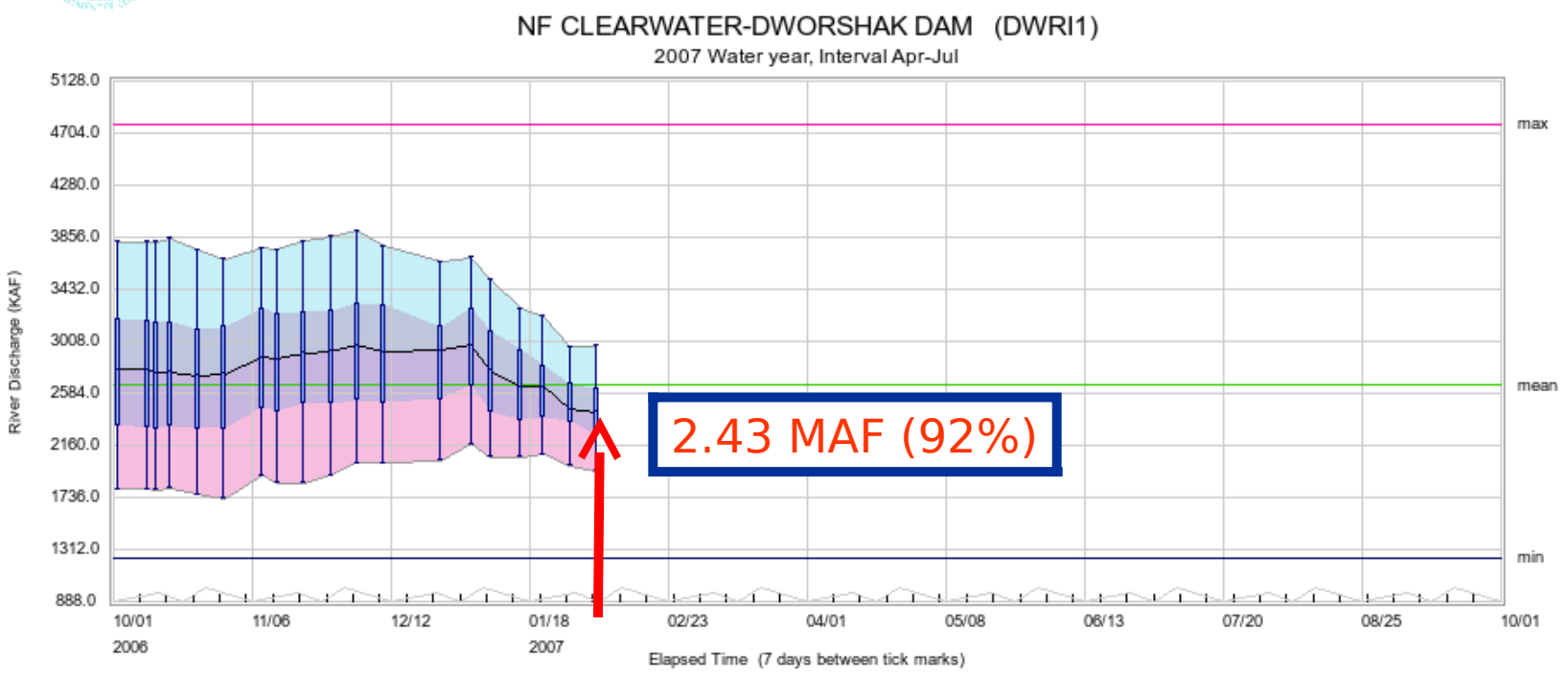
Seasonal Wt Mean = 124%

- Feb-Jun Mean Subsequent Precipitation
  - Assumption of 80% Normal for February
  - Assumption of 100% Normal for March-June

Dworshak WS Forecast Trend



Dworshak ESP Forecast Trend



Dworshak Forecast Verification

Feb 1 Final Forecast of Apr-Jul Period